Geographical dispersion of causes of death and risk factors in fatal road accident in Ardebil province(a GIS analysis)

Abstract

Introduction and aims: driving accidents are the second most common cause of mortality after cardiovascular events in Iran, while in the below 40 years of age group-the first. The aim of this study was to investigate the geographic distribution of the road accidents resulting in death in the province of Ardebil and determine factors influential in such events.

Materials and methods: this was a cross-sectional study, and the study population was people killed in a road accident in Ardabil province from recorded in legal medicine organization in the province. Demographic variables, and variables related to the incident was recorded and analyzed with SPSS software and GIS and maps of the geographic dispersion of Ardabil province road accidents leaded in mortalities were produced.

Results: of the 234 mortalities, most of those died were male (73.5%), more in the age bracket of 40-60 years (26.1%) with the average age of 36.86 ± 15.61. Reverse relationships were observed between the level of education and frequencies. Most of the means of transport lead to death was the kind of riding (53%).most of mortalities happened at the site of the accident (59.4%), and most of mortalities carried in the ambulance (70.9%). Most accidents took place in hot seasons of the year and especially in the Shahrivar season (12.8%). The most common cause of death in both sexes and at all ages and in all the cities estimated as head trauma. Most fatal accidents happened respectively in Ardabil city and suburban streets, especially main ways (57.7%). on the streets of inner-city home most of the accidents happened in main streets (37.1%). In areas with higher air humidity the amount of accidents leading to death was higher and in areas with low air humidity is less than this amount.

conclusion: male sex, age between 40-60 years, lower education, summer season , light vehicles, the time and place of the accident and humidity are effective factors in the occurrence of accidents that should be considered in road accidents prevention programs.

Key keywords: trauma, GIS, geographic dispersion, road accidents.